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ILRI in India

The mission of the International Livestock Research Institute (ILRI) in India is to improve food and nutritional security and to reduce poverty through research for efficient, safe and environmentally sustainable use of livestock—ensuring better lives through livestock.

Agriculture in India is rapidly changing. Demand for meat, milk and eggs—more than 70% of which are produced by smallholder mixed crop-and-livestock farmers—is expected to rise as much as 50% by 2050. A net importer of dairy products only 20 years ago, India is now one of the world's principal milk producers and meat exporters. In supporting equitable growth and environmental sustainability, ILRI in India has prioritized a number of key areas to help protect the livelihoods of smallholder livestock farmers and link them to the market, manage food safety and health risks associated with livestock, and assist smallholder and landless farmers in diversifying livestock production.

As a CGIAR research centre working for a food-secure future, ILRI in India participates in three CGIAR Research Programs: Livestock; Grain Legumes and Dryland Cereals; and Agriculture for Nutrition and Health. The institute also participates in a number of bilateral research-for-development projects in the region. In recent years, in collaboration with the Indian Council of Agricultural Research (ICAR) institutes, universities, government departments, private and NGOs, ILRI research has identified evidence to improve the productivity, sustainability and safety of the livestock sector, strengthened the capacity of local partners and supported local government organizations and other partners in scaling up interventions. Supporting and complementing the work of the national agricultural research system (NARS), ILRI in India primarily works in the fields of food safety and zoonosis, feed and fodder innovation, livestock economics, value chain development and policy support to government.



Previous ILRI projects in India

Comprehensive study of the Assam dairy sector (2006–07)

This World Bank-funded comprehensive study of the Assam dairy sector (consumers, farmers, food safety, traders and dairy plants) contributed to the framing of an action plan for the dairy sector in the state. The findings were used to design a dairy project to pilot recommendations for the development of the informal dairy sector.

Appraisal of the Assam and Nagaland pig sectors (2006–07)

This study assessed the scope to improve livelihood opportunities, production, market efficiency, service delivery, consumption, pork and piglet supply chain efficiency, as well as estimated pork supply and demand. The findings were discussed at a national policy workshop organized by the Ministry for Development of North Eastern Region in Delhi in 2011 and contributed to the design of a number of smallholder pig development activities in the region.

National Agricultural Innovation Project (NAIP) (2007–12)

This ICAR-lead World Bank-funded project in Nagaland's Mon district helped improve the livelihoods of smallholder pig and backyard poultry producers through the introduction of needs-based low-cost technologies such as improved breeds, food-feed crop cultivation, etc. The outcomes contributed to the implementation of smallholder piggy development interventions by government and donor agencies.

NAIP sweet sorghum project (2008–12)

This project added value to improved crop residues and forages through targeted supplementation and feed processing options—that were well-matched to on-farm needs, feed and fodder transport logistics—and the establishment of small-scale feed and fodder enterprises.

ACIAR rabi sorghum phases I and II (2008–2013)

Focusing on research into the improvement of sorghum and pearl millet forages—variations in biomass yield, forage quality, etc.—the Australian Centre for International Agricultural Research (ACIAR)-funded project helped select, breed and disseminate short-duration, multi-cut and water-efficient forages to support the intensification of dairy production in India.

GET dairy (2008–2015)

The project involved the assessment of milk quality, identification of critical control points, knowledge, attitudes and practices of the value chain actors, design of customized training manuals for milk producers and traders, piloting of a training, monitoring and certification for informal milk value chain actors, and an impact assessment of the pilot to support scaling up. Bringing together relevant government departments, the project adopted a One Health approach to the work.

Cereal Systems Initiative in South Asia (CSISA) (2009–15)

This project—in India, Nepal and Bangladesh—added value to cereal systems productivity and sustainability by enabling farmers to effectively engage in livestock-related income-generating activities: (1) residue-based feed technology development and adaptation, and (2) capacity development for technology uptake and scaling up.

System-wide Livestock Programme (2010–13)

In collaboration with the International Maize and Wheat Improvement Center, the project increased understanding of the trade-offs in crop residue uses—feeding animals versus improving soil productivity—in the cereal-based systems: millet, sorghum and maize-based systems in West Africa; maize-based systems in eastern and southern Africa; and wheat, rice and maize-based systems in South Asia.

MilkIT (2011–14)

This project strengthened the dairy value chain in Uttarakhand by improving feed and market value chains through an innovation platform approach, facilitating different stakeholders to act together in solving common issues.

imGoats–IFAD initiative (2011–13)

imGoats increased the incomes and food security in a sustainable manner by enhancing pro-poor small ruminant value chains in India (Rajasthan and Bihar) and Mozambique. Funded by the International Fund for Agricultural Development (IFAD), it helped transform goat production and marketing from an ad hoc, risky, informal activity into profitable enterprises tapping into growing markets, largely controlled by women and other marginalized groups.

Dairy value chain transformation, Bihar (2014–16)

This project enhanced equitable and sustainable dairy value chains by improving access to quality inputs and services (2) improving access to reliable, well-coordinated and efficient product marketing arrangements, and (3) improving poor consumers' access to quality, safe and nutritious dairy products at affordable prices.

Peri-milk (2014–17)

This project improved understanding of interaction of disease risks (especially bovine tuberculosis and antimicrobial resistance) in humans, dairy cattle and the environment in five different urban settings (Guwahati, Bangalore, Udaipur, Bhubaneswar and Ludhiana) through a multidisciplinary and multi-actor partnership.

Current ILRI projects in India

Food-feed crop research

Responding to the importance of crop residues as fodder, ILRI and partners have helped improve the crop residue fodder traits of key cereals. Cultivar-dependent differences in haulm fodder quality resulted in two-fold increases in the weight of sheep (657 g a day), and in groundnut and faba bean yields (38–65 g a day). To enable multidimensional crop improvement, ILRI has established a near infrared spectroscopy (NIRS) laboratory in Hyderabad.

NIRS feed quality evaluation platform

NIRS platform scientists undertake the phenotyping of feed samples, in-vitro studies and animal performance trials. The platform, probably the most advanced in South Asia, houses three stationary FOSS type NIRS. The laboratory uses NIRS for conventional fodder analysis and toxic compounds with feed and food analysis.

Enhancing livelihoods through livestock knowledge systems

This Tata Trusts–ILRI partnership helps strengthen dairy, pig and goat-based value chains in marginal areas through applied livestock research using an integrated system perspective. It provides research support to development initiatives in Uttarakhand, Nagaland and Vidarbha to address technical, institutional and policy gaps.

Government of Karnataka-CGIAR initiative

In this International Crops Research Institute for the Semi-Arid Tropics-led project, ILRI focuses on the sustainable intensification of smallholder dairy farming through the use of technologies, innovations and practices.

ICAR-ILRI project on brucellosis control

In this project—involving the National Institute of Veterinary, Epidemiology and Disease Informatics and the Indian Veterinary Research Institute—ILRI assesses the prevalence and risk factors of *Brucella* infection in dairy cattle and buffalo, estimates economic costs, undertakes spatial mapping of distribution of *Brucella* infection in the surveyed areas (Assam, Bihar and Odisha) and identifies risk management and control options.

ICAR-ILRI project on antimicrobial residues and resistance

The project seeks to enhance understanding of antimicrobial use at state and farm levels in the dairy and poultry sectors (Haryana and Assam). Scientists screen samples for antimicrobial residues, study antimicrobial resistance, pilot innovations to improve antimicrobial use and disseminate their findings to policymakers.

ICAR-ILRI buffalo breeding project

In this project—involving the ICAR Central Institute for Research on Buffalo—ILRI seeks to increase buffalo productivity through use of superior buffalo genetics that meet smallholders' needs and preferences.

Government of Odisha fodder project

In partnership with the Odisha Directorate of Animal Husbandry and Veterinary Services, the project studies the availability of feed and fodder to improve the efficiency in utilization of crop residues especially paddy straw and underutilized fodder e.g. maize stover. It also introduces technologies to improve the feeding of dairy animals, disseminate improved variety of dual-purpose and fodder crops in different agro-climatic zones and help establish 90 fodder cooperatives.

ICAR-ILRI feed project

This project aims at multidimensional improvement of food-feed crops including deconstruction of lignocellulose biomass. It seeks to identify and disseminate crop cultivars with higher residue quality, increase nutrient uptake through feed processing and explore biofuel technologies to upgrade lignocellulose biomass.

ICAR-ILRI goat value chain project

In collaboration with the ICAR-Central Institute of Research on Goats Mathura, the Sanjay Gandhi Institute of Dairy Technology Patna and the ICAR-National Dairy Research Institute Karnal, ILRI seeks to identify suitable interventions for pro-poor goat meat and milk value chain development, starting with value chain assessments.

Bihar livestock master plan–BMGF initiative

In this Bill & Melinda Gates Foundation (BMGF)-funded project, ILRI is providing training and technical support to staff of the Bihar Department of Animal and Fisheries Resources and related educational institutions to develop a quantitative, evidence-based five-year investment plan to help modernize the livestock sector.

Assam dairy and pig value chain development project

Funded by the World Bank, ILRI provides technological and capacity building support to the parastatal Assam Rural Infrastructure and Agricultural Services Society to strengthen dairy and pig value chains in Assam.

In the pipeline

ICAR-ILRI green climate fund project

In this five-year project—led by the ICAR-Central Institute of Research on Buffaloes, ILRI seeks to improve resource use efficiency in mixed farming systems through the development of business models for buffalo dairy farming and climate responsive feed technologies and practices in peri-urban areas.

Staffing

ILRI has offices in four locations in India, with over 30 staff covering a range of disciplines, including, animal production, animal health, animal nutrition, feed technology, food safety and zoonosis and agricultural economics

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The International Livestock Research Institute (ILRI) works with partners worldwide to:

1. Develop, test, adapt and promote science-based practices that—being sustainable and scalable—achieve better lives through livestock.
2. Provide compelling scientific evidence in ways that persuade decision-makers—from farms to boardrooms and parliaments—that smarter policies and bigger livestock investments can deliver significant socio-economic, health and environmental dividends to both poor nations and households.
3. Increase capacity among ILRI's key stakeholders and the institute itself so that they can make better use of livestock science and investments for better lives through livestock.

ILRI leads the CGIAR Research Program on Livestock, leads a component of the CGIAR Research Program on Agriculture for Nutrition and Health on food safety, and contributes to several other CGIAR research programs and platforms. ILRI is the co-founder, with the African Union/New Partnership for Africa's Development Planning and Coordination Agency, of the Biosciences eastern and central Africa (BecA-ILRI) Hub on its Nairobi campus where world-class facilities for biotechnology research are in use by ILRI, and other international and national partners. The platform increases access to advanced laboratories for African and international scientists conducting research on African agricultural challenges.



The International Livestock Research Institute (ILRI) works to improve food and nutritional security and reduce poverty in developing countries through research for efficient, safe and sustainable use of livestock. Co-hosted by Kenya and Ethiopia, it has regional or country offices and projects in East, South and Southeast Asia as well as Central, East, Southern and West Africa. ilri.org



CGIAR is a global agricultural research partnership for a food-secure future. Its research is carried out by 15 research centres in collaboration with hundreds of partner organizations. cgiar.org

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